control moves to S220. On the other hand, if it is determined that there is any malfunction-information storing object 300 that has not received the control instruction retrieving request (S210: NO), control returns to S200 to repeat the same.

At S220, the MIL information is determined. In this operation, the control instruction of a higher priority outputted from each malfunction-information storing object 300 is selectively determined as the MIL information. As mentioned above, in the present embodiment, the control instructions of the MIL 25 include three types of control instructions, namely, "flashing", "lighting-on" and "lighting-off". Among these instructions, a priority level decreases in the following order: "flashing", "lighting-on" and "lighting-off".

Then, at S230, the selectively determined MIL information is outputted to the MIL controlling object 400, and the MIL information output process ends.

Next, the control instruction output process S3 will be described with reference to FIG. 8.

FIG. 8 is a flowchart showing the control instruction output process S3 executed by each malfunction-information storing object 300. The control instruction output process S3 is executed when the malfunction-information storing object 300 receives the control instruction retrieving request from the malfunction-information managing object 200.

First at step S300, the stored malfunction information is retrieved. In this operation, for example, the first malfunction-information storing object 310 shown in FIG. 5

retrieves "temporarily abnormal" as the malfunction information.

Next, at S310, reference is made to the relationship information. Then, at S320, the control instruction corresponding to the malfunction information retrieved at S300 is specified. For example, since the malfunction information of the first malfunction-information storing object 310 shown in FIG. 5 is "temporarily abnormal", the first malfunction-information storing object 310 specifies "lighting-off" as the control instruction by referring to the relationship information.

Thereafter, at S330, the control instruction specified at S320 is outputted to the malfunction-information managing object 200.

Advantages of the objects 200-400 arranged in the above manner will be described below.

The present embodiment is based on the following fact. That is, the logic for specifying the control instruction of the MIL 25 based on the malfunction information needs to be constructed in view of the type of the diagnosis target. To satisfy this requirement, the adjustment logic for adjusting the result of the malfunction-information determination operation is implemented by the two objects. That is, the malfunction-information storing object 300 specifies the control instruction for the malfunction information (FIG. 8), and the malfunction-information managing object 200 adjusts the specified control instruction (S220 in FIG. 7) and outputs the

final MIL information (S230). As a result, even if any diagnosis target is changed, it is only required to change the corresponding malfunction-information storing object 300, so that there is no need to change or modify the malfunction-information managing object 200. Thus, the reusability of the self-diagnosis program is improved, and the disadvantage discussed in the above section (1) can be dissolved.

Furthermore, in the present embodiment, the malfunction-information storing object 300 is prepared for each malfunction check item that corresponds to the diagnosis target. Thus, even if any diagnosis target is changed, it is only required to change or add the corresponding malfunction-information storing object 300. This allows improvement in the reusability of the self-diagnosis program.

Furthermore, the malfunction information indicative of "normal", "temporarily abnormal" or "abnormal" is stored for each malfunction check item, which corresponds to the diagnosis target, by the process that is triggered by the malfunction detection request outputted from the PF 500. Furthermore, the MIL control operation is carried out in the other process that is triggered by the MIL state renewal request. More specifically, the MIL controlling object 400 outputs the MIL information request when the MIL state renewal request acting as the trigger is received from the PF 500. In response to the MIL information request, the malfunction-information managing object 200 outputs the MIL information (FIG. 4). Thus, the MIL control operation can be carried out irrespective of the timing for